

## Knowledge and Practice of Nurses Regarding CPR in Private Tertiary Care Hospital Peshawar, KP, Pakistan

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Received date: Nov 28, 2018; Accepted date: Feb 12, 2019; Published date: Feb 19, 2019

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### Abstract

**Objective:** The aim of this study was to know about knowledge and practices of nurses regarding CPR in private tertiary care hospital, Peshawar, KP.

**Methodology:** A descriptive-cross-sectional study was conducted among nurses in private tertiary care hospital Peshawar, KP. Participants were selected from different units by using random sampling technique. The data was collected through self-developed questionnaire.

**Results:** The study consisted of 55 participants including 7.3% male and 92.7% female. The overall knowledge and practices of participants were calculated in percentage that revealed that the mean knowledge of participants was 82.02% with standard deviation 12.347%, while the mean practice was 42.42% with standard deviation 10.948%. Independent t-test was applied to compare the association of participants practice with those who attend BLS course, that was significant  $p=0.010$ .

**Conclusion:** The current study, conducted in private tertiary care hospital, focused on knowledge and practices of nurses regarding CPR. The results significantly appeared to show that nurses had poor practices of CPR as compared to knowledge. The study also highlighted that nurses need to be properly trained on CPR.

**Keywords:** Nurses; Basic life support; Cardiac pulmonary resuscitation; Training; Nurses knowledge

**Abbreviations:** CPR: Cardiopulmonary Resuscitation; BLS: Basic Life Support; AHA: American Heart Association; ICU: Intensive Care Unit; SPSS: Statistical Package for Social Sciences; KP: Khyber Pakhtunkhwa.

### Background

Cardiac Pulmonary Resuscitation (CPR) is a part of important integral medical procedure in emergency care. It is a combination of rescue breathing and chest compression, which is deliver to the victims who are thought to be in cardiac arrest [1].

Cardio Pulmonary Arrest is the life-threatening condition and the common emergency that is caused by sudden cessation of circulation leading to the catastrophic events and eventually death. According to American Heart Association, in year 2016, out-of-hospital cardiac arrest accounts for more than 350,000 and the overall bystander CPR rate was 46.1%; whereas, in-hospital cardiac arrest accounts for more than 209,000 with 24.8% survival rate [2].

A study was conducted by Raffa et al. [3] in which (28%) participants attended a training course on BLS. 51% of medical students have poor knowledge about BLS; the knowledge of 44% of students was fair, while the knowledge of only 5% of students was good.

Another study was conducted in North Eastern by Yunus et al. [4] with the purpose to assess the knowledge, attitude and practice of CPR in Doctors and paramedical staff. The study showed that 24.36% doctors and 53.45% paramedics' participants had scored poorly. Almost all participants (98.76%) thought that BLS is necessary, while 94.34% of participants suggested that it should be a part of the teaching curriculum.

Similarly, Tsegaye et al. [5] conducted a cross-sectional study to assess knowledge, attitude and practice about CPR among medical students. The total response rate for this study was 98%. About 93.3% of the respondents had good knowledge about CPR of which, fifth year students were 36.2%, fourth year students were 34.1% and interns were 23% respectively. Among study participants, 80.7% students did not practice CPR.

Additionally, Olajumoke et al. [6] assessed the knowledge, attitude and practices of medical practitioners regarding CPR and defibrillation. The result showed that medical practitioners were not knowledgeable about CPR. Out of the total respondents, 35(53.85%) were actively involved in the resuscitation of patients, 27 (41.54%) were rarely involved in the resuscitation of patients; while, 3(4.62%) were never involved in the resuscitation of patients after their graduation from medical school.

The purpose of the study was to explore knowledge and practices of nurses regarding CPR in tertiary care hospital Peshawar, KP.

## Methodology

### Study design

The research design used for the current study was a quantitative research, which is a descriptive cross-sectional study. Cross sectional design is best when the researcher is interested to gather information at one point. It provides a snap shot of the population.

### Population and setting

The selected hospital was a private tertiary care hospital in Peshawar. The study population was nursing staff of the hospital.

### Sampling technique

Nurses were selected from different shifts by using random sampling technique.

### Sample size

Sample size was calculated by Rao soft software; population size was 218 with 5% margin of error and 10% Non-responsive rate. The calculated sample size was 55.

### Inclusion

Nurses who were working in private tertiary care hospital in Peshawar with at least one-year experience, and those who performed CPR.

### Data collection tool

For data collection, self-developed questionnaire was adopted and modifications were made accordingly. The questionnaire consisted of fifteen questions about knowledge and practices of nurses regarding CPR.

### Ethical consideration

Approval for data collection was taken from the Manager Nursing Services (MNS) of the hospital. An informed consent was presented and explained to each participant for his/her agreement as a participant. Autonomy was guaranteed to all participants.

### Data analysis

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS, 19). For data analysis in descriptive statistics, percentage and frequencies were calculated for nominal and ordinal data, while mean and standard deviation were calculated for scale data. In inferential statistics, Independent sample t test was used to know the association among variables for continuous data.

Below 45%	Poor
45-60%	Fair
60-75%	Good
Above 75%	Excellent

Table 1: Participants divided into categories.

Furthermore, the participants were divided into categories. Participants who scored >75%=excellent, 60-75%=good, 45-60%=fair, <45%=poor (Table 1).

## Results

Study consisted of 55 participants, in which 4 (7.3%) were male, 51 (92.7%) were female. Study participants' age ranged from 19 to 36 shown in Figure 1. 89.1% participants were diploma holders, 5.5% participants were BScN degree holders, and 3% participants were MSN degree holders (Figure 2). Out of 55 participants, 29.1% had attended BLS course, and 70.9% had not attended the BLS course, as shown in Figure 3. In this study, 1-5-year clinical experienced participants were 70.9%, 6-10-year experienced participants were 18.2%, and 11-15-year experienced participants were 10.9%, as shown in Figure 4.

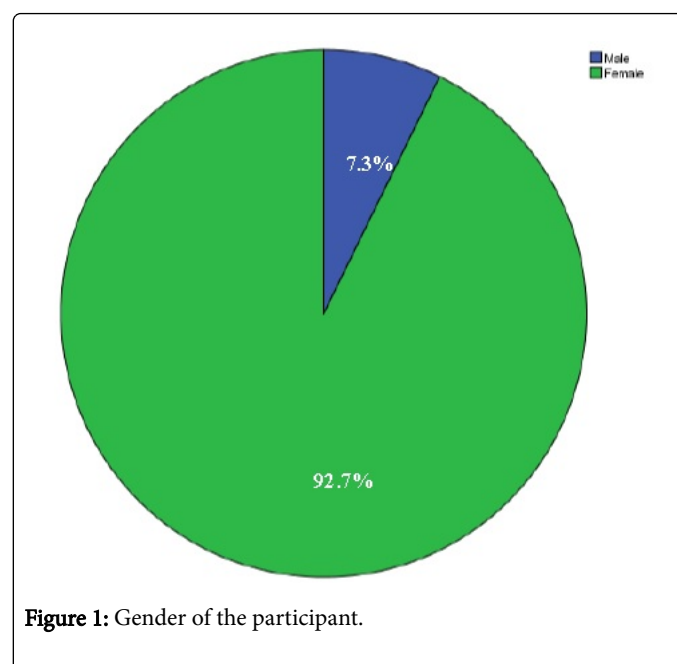


Figure 1: Gender of the participant.

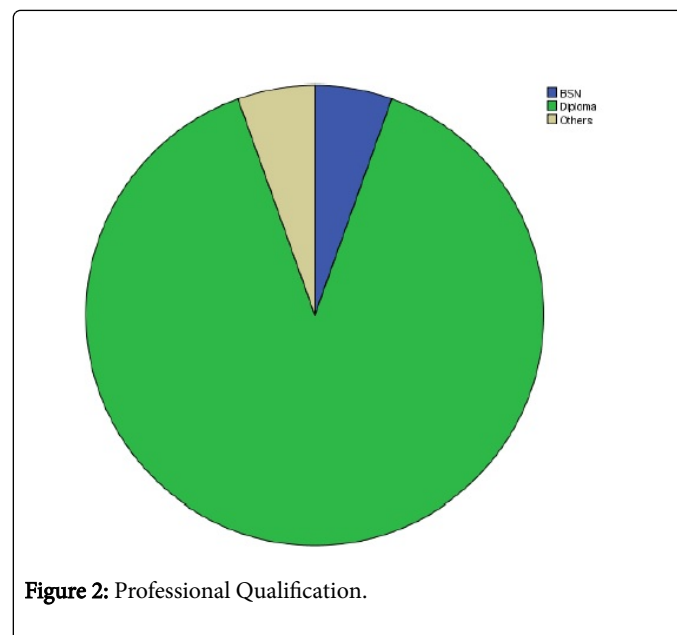


Figure 2: Professional Qualification.

The overall knowledge and practices between our participants with standard deviation was calculated in percentage where the study revealed that the mean knowledge of participants was 82.02% with the standard deviation 12.347%, while the mean practice was 42.42% with standard deviation 10.948%. The graphical representation is given in histogram (Figures 5 and 6).

Furthermore, Independent t-test was applied to identify the association between practices of participants who attended BLS course that was significant with p value 0.010.

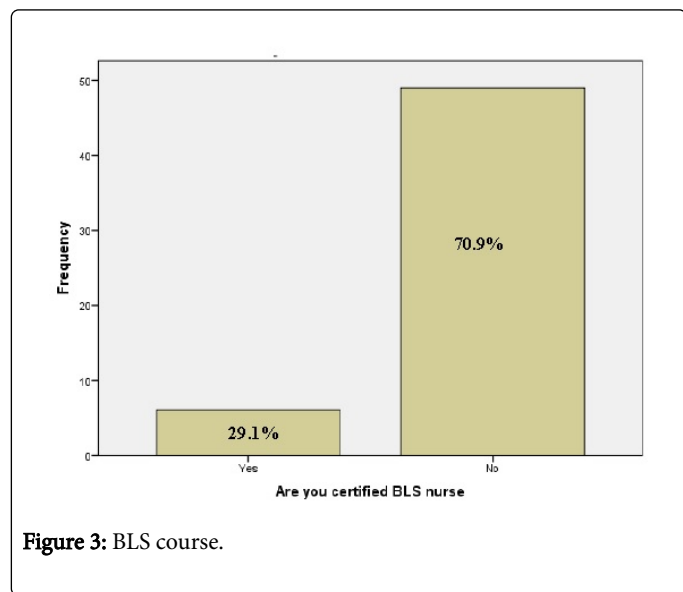


Figure 3: BLS course.

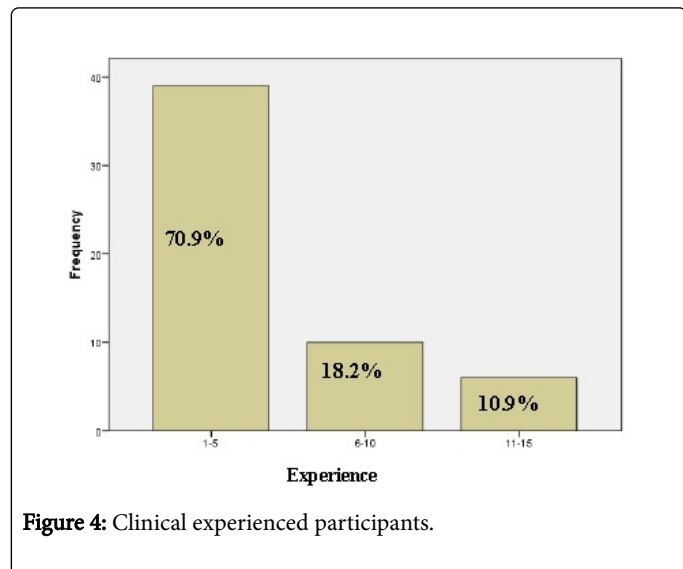


Figure 4: Clinical experienced participants.

## Discussion

Nurses are important members of the healthcare team. They play a vital role in the institutional care of the patients. Literature was searched thoroughly about knowledge and practices of nurses regarding CPR. Several studies were found in different countries of the world.

According to Vural et al. [7] the total score of CPR knowledge among nursing students was very good. On the other hand, the score

of awareness of CPR was better than the score of skills of CPR. Similarly, the knowledge among nurses was also excellent in the current study.

A study was conducted in Nigerian MBBS internees and Nursing internees to evaluate the knowledge and practice about CPR. The knowledge and practice level were found less [1]. In contrast, the current study results showed excellent knowledge about CPR, but it appeared to show less practice ratio as compared to knowledge.

Furthermore, another study was conducted Parajulee et al. [8] to evaluate the knowledge of nurses regarding CPR in a Nepalese tertiary care teaching hospital. The knowledge was found to be low, with the mean  $\pm$  SD total score of  $11.45 \pm 2.67$ . Moreover, Raffa et al. [3] stated that his study participants had poor knowledge of CPR. In contrast, the current study shows excellent knowledge among nurses with the mean of 82.02% and S.D of 12.37%.

The current study highlighted a good level of knowledge of nurses regarding CPR as compared to its practice with the mean of 82.02% and S.D of 12.37%. However, the study of Yunus et al. [4] resulted in poor knowledge and practice of the students.

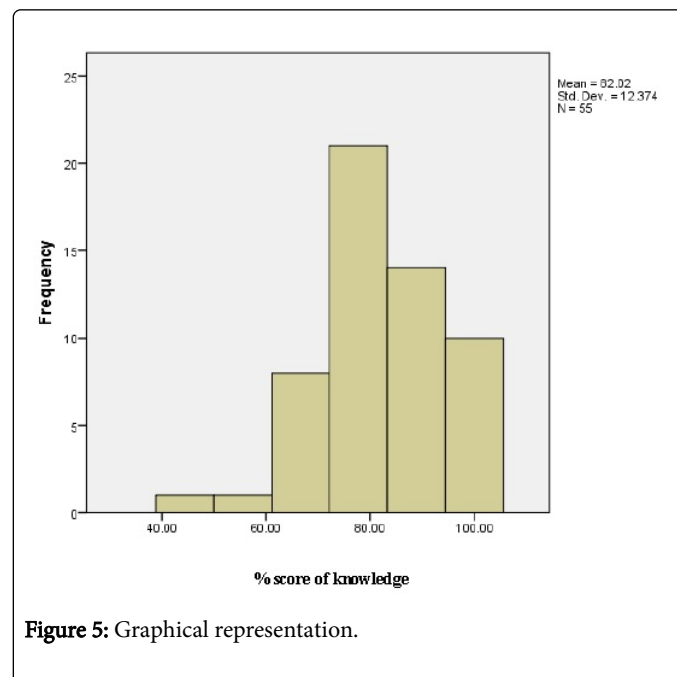


Figure 5: Graphical representation.

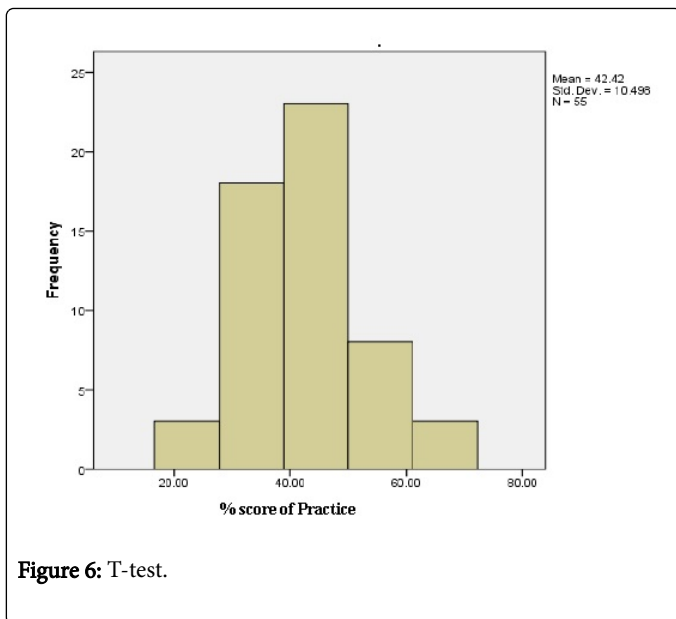


Figure 6: T-test.

Training sessions on CPR should be conducted in health care organizations to improve the nursing practice. Outcome of the study should be disseminated and shared with higher authorities and health care management. To know the level of practical knowledge of nurses, extensive research study should be conducted on CPR. According to the result of the current study, government and private health organizations should arrange special workshops on CPR for the nursing staff.

## Conclusion

The current study was conducted in private tertiary care hospital. The study was focused on knowledge and practices of nurses regarding

CPR. The results significantly appeared to show that the nurses had poor practices of CPR as compared to its knowledge. The study also highlighted that nurses need to be trained more on CPR.

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